

REMARKS

Claims 20-21 are pending in this application. Claims 1-19 have been canceled. New claims 20 and 21 have been added.

New claim 20 is clearly supported by at least previous claim 1 (canceled) and statements in paragraphs [0031], [0033], [0034], [0035], and [0037] of the substitute specification filed on February 17, 2006. Further, claim 21 is based on previous claim 19 (canceled).

In view of the foregoing amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Claim Objections

Claim 18 has been objected to because it adds to claim 17 the limitation of charging at a temperature in the range of 550°C or higher, which will exceed and/or overlap with the melting ranges of the metals constituting the housing shell.

Claim 18 has been canceled to overcome this objection.

The Examiner is respectfully requested to reconsider and withdraw this objection.

Claim Rejections - 35 U.S.C. § 112

Claims 1 and 18 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claims 1 and 18 have been canceled.

Claim Rejections - 35 U.S.C. § 103

(a) Claims 1, 2, 6, 10-11, and 16-19 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori et al. (USP 5,849,062) in view of Morey (USP 4,362,276). This rejection is respectfully traversed.

The present invention has the step of “cutting and removing said wiring harnesses from the inflators”, as recited in claim 20.

Fukabori discloses a method for recovering metallic materials of gas generator for air bag. As stated at least in the abstract, col. 2, lines 20-29, however, Fukabori recovers inflators by crushing waste vehicles in which air bag apparatuses are installed by a crushing means, and taking the gas generators out of the crushed pieces of the waste vehicles.

As acknowledged by the Examiner in the Office Action, Fukabori is silent with regard to the wire harness. Therefore, Fukabori fails to disclose or suggest the step of “cutting and removing said wiring harnesses from the inflators,” as recited in claim 20.

The Examiner then relies on the Morey reference to show that it discloses the method for recovering and recycling metal and plastic from an insulated wire.

Morey discloses, in col. 2, lines 25-28, comminuting insulated wire into small pieces using any of the conventional cutting, chopping, or granulation techniques, but does not disclose the step of “cutting and removing said wiring harnesses from the inflators,” as required in claim 20.

Therefore, even assuming that Fukabori and Morey can be combined, which Applicants do not admit, one of ordinary skill would merely conceive comminuting wire harnesses from gas

generators taken out of the crushed pieces of the waste vehicle, or crushing the wire harnesses together with the waste vehicle.

Accordingly, Fukabori and Morey, taken singly or in combination, do not disclose or suggest the step of "recovering inflators to be thermally treated by cutting said wiring harnesses from the inflators at a root portion of the wiring harnesses," as required in claim 20.

Further, Fukabori also fails to disclose or suggest "said charging step includes the step of carrying out the thermal treatment at a temperature lower than that which melts a grouped metal constituting said housing shells and higher than 500°C", as recited in claim 20.

An initiator is equipped in an inflator. In a furnace, it takes some time for heat to be transferred to the initiator. Thus, an inflator is usually treated at higher temperature than a normal manner in a furnace so as to ignite the initiator.

The treatment at 500°C or higher, as recited in claim 20, make the treating method for inflators for an air bag more reliable. Namely, the method of the present invention can reduce a risk that unignited initiator is charged in a melting step and melt metal is scattered.

Fukabori merely disclose a thermal treatment at lower temperature (i.e. 150 to 450 °C) to ignite a gas generating agent. Thus, according to Fukabori, the advantages of the present invention (e.g., ignition of an initiator) cannot be achieved, and the treatment at such a low temperature cannot reduce the risk as mentioned above.

In general, an initiator agent has higher ignition temperature than a gas generating agent. For example, a typical initiating agent contains ZPP having a melting point of about 400 °C and B/KNO₃ having a melting point of about 520 °C. On the other hand, a typical fuel for a gas

generating agent contains guanidine nitrate having a melting point of about 150-160 °C and nitroguanidine having a melting point of about 200-220 °C.

Therefore, according to the present invention, which contains the step of the treatment at 500°C or higher, such an initiator having a high ignition temperature can be removed away and the above-mentioned risk is avoided effectively.

Accordingly, the present invention (independent claim 20 and dependent claim 21) is not obvious over the cited references since the cited references (i.e. Fukabori and Morey) do not provide any motivation to arrive at the preset invention as claimed.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

(b) Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori in view of Duckworth (August 2002). Claims 3-5 and 7-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori in view of Morey and further in view of EP 0 818 547 A1 (EP'547). Claims 12-13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori in view of Morey and in further view of the ASM Handbook, formerly 9th edition, Metals Handbook, Volume 15, Casting (“Metals Handbook”). Further, claims 14-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukabori in view of Morey in further view of Metals Handbook and in further view of EP ‘547.

The other cited references (e.g., Duckworth, EP 0 818 547 A1 and “Metals Handbook”) also fail to disclose or suggest the above-mentioned feature of the present invention.

Accordingly, the present invention (independent claim 20 and dependent claim 21) is not obvious over the cited references since the cited references do not provide any motivation to arrive at the preset invention as claimed.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

Conclusion

Accordingly, in view of the above amendments and remarks, reconsideration of the rejections and objections, and allowance of the pending claims are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Maki Hatsumi (#40,417) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Dated: July 7, 2006

Respectfully submitted,

By Terrell C. Birch #29271
Terrell C. Birch
Registration No.: 19,382
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road, Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant